

Course Structure for Ph. D Program
Ecology and Evolution, Department of Life Science
National Taiwan Normal University

Adaptive to Class of	Required Credit(s)	Elective Credit(s)	Free Elective Credit(s)	Minimum Total Credits for Graduation
111	14.0	10.0	0.0	24.0

Note: The first alphabet "E" on the course name refers to the course in English as a medium of instruction

I. Required Courses: 0.0 credit is required

II. Elective Courses: 0.0 credit is required

III. Courses Offered to Students in Different Divisions

Required Course, 14.0 credits are required

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
BIC0173	1 Evolutionary Biology	3.0	3.0	0.0	
BIC0174	2 E Advanced Ecology	3.0	3.0	0.0	
BID0165	3 Seminar	2.0	2.0	0.0	This course must be retaken with a passing score for 4 times

Elective Course: 10.0 credits are required

Direct Admission to Doctoral Program from Master's Program must Practice 16 credits

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
1 Core Elective Curriculum 2 courses are least required					
BIC8010	1-1 Research Methods in Ecology and Evolution	1.0	1.0	0.0	
BIC0011	1-2 Experimental Design and Data Analysis	3.0	3.0	0.0	
BIC7007	1-3 Population Genetics and Evolution	3.0	3.0	0.0	
BIC7012	1-4 Principles of Phylogenetics	3.0	3.0	0.0	
BIC8022	1-5 E Behavioral Ecology	3.0	3.0	0.0	
BIC0153	1-6 Regression Analysis	3.0	3.0	0.0	
BIC0185	1-7 Adaptation and Natural Selection	3.0	3.0	0.0	
BIC8015	1-8 Topics on Interaction between Marine Biology and Physical Oceanography	3.0	3.0	0.0	
BIC0029	1-9 Topics in Biosystematics	2.0	2.0	0.0	
BIC0061	1-10 Principles and Methods of Plant Taxonomy	2.0	2.0	0.0	
BIC7003	1-11 Molecular Evolution	3.0	3.0	0.0	
BIC8025	1-12 E Introduction to Statistical Analysis	3.0	3.0	0.0	
BIC8026	1-13 E Linear and Logistic Regression Models	3.0	3.0	0.0	
BIC0133	2 Topics in Molecular Biology	2.0	2.0	0.0	
BIC8007	3 Research Methods of Experimental Biology	2.0	2.0	0.0	
BIC0139	4 Protein and Enzyme Chemistry	2.0	2.0	0.0	
BIC8016	5 Writing Scientific Papers in English	2.0	2.0	0.0	
BIC7009	6 Immunochemistry	3.0	3.0	0.0	
BIC8018	7 Topics on Animal Physiology (I)	2.0	2.0	0.0	
BIC7015	8 Comparative Animal Physiology	3.0	3.0	0.0	
BIC0119	9 Learning and memory	3.0	3.0	0.0	
BID0074	10 Topics in Sensory Physiology	3.0	3.0	0.0	
BIC0052	11 Neuropharmacology	3.0	3.0	0.0	
BIC8006	12 Topics on Animal Physiology (II)	2.0	2.0	0.0	
BIC0017	13 Topics in Fish Physiology	3.0	3.0	0.0	
BID0069	14 Topics in principle of phylogenetics	3.0	3.0	0.0	
BID0072	15 Topics in Plant Growth and Development	2.0	2.0	0.0	
BID0075	16 Topics in Brain Physiology	3.0	3.0	0.0	
BIC0016	17 E Topics in Plant Molecular Biology	2.0	2.0	0.0	
BIC0021	18 Topics in Molecular Genetics	3.0	3.0	0.0	
BIC0023	19 Topics in Biochemistry	2.0	2.0	0.0	
BIC0038	20 Studies in Adaptation and Natural Selection	2.0	2.0	0.0	
BIC0059	21 Architecture of Brain	3.0	3.0	0.0	
BIC0075	22 Biomathematics	3.0	3.0	0.0	
BIC0101	23 Paper Writing and Presentation in Biological Science	2.0	2.0	0.0	
BIC0138	24 Cellular and Molecular Biology	3.0	3.0	0.0	
BIC0186	25 Protein Engineering	3.0	3.0	0.0	
BIC7001	26 Special Topics on Intellectual Property	2.0	2.0	0.0	
BIC8003	27 Ecology and Evolution of Amphibians and Reptiles	2.0	2.0	0.0	
BIC8012	28 Oxidative Stress Physiology	3.0	3.0	0.0	
BIC8020	29 Biotechnology for the Drug Development	2.0	2.0	0.0	

Course Code	Course Name	Credit(s)	Credit Unit		Note
			Lecture Hour	Lab/Practice Hour	
BIC7002	30 Industrial Practice	3.0	3.0	0.0	
BIC7004	31 Translational Medicine — Novel Compounds and Chinese Herbal Medicines	2.0	2.0	0.0	
BIC7005	32 E Drug Development and Translational Medicine	2.0	2.0	0.0	
BIC7010	33 Neuroethology	3.0	3.0	0.0	
BIC7011	34 Developmental Neurobiology	3.0	3.0	0.0	
BIC7013	35 Plant Ecology	3.0	3.0	0.0	
BIC7014	36 Conservation Genetics	3.0	3.0	0.0	
BIC8021	37 Experimental Physiology	2.0	2.0	0.0	
BIC8009	38 Advanced Seminar (I)	0.0	0.0	0.0	
BIC8014	39 Advanced Seminar (II)	0.0	0.0	0.0	
BID0166	40 Issues and Rationale of Biological Education	3.0	3.0	0.0	
BIC8023	41 Application of Optoelectronic Technology in Biomedical	2.0	2.0	0.0	
BIC8027	42 E Topics in Virology	2.0	2.0	0.0	
BIC8029	43 E Laboratory Rotations in Cell and Molecular Biology	3.0	3.0	0.0	
BIC8028	44 E Apply Sciences Lead to Biotechnology Industry	2.0	2.0	0.0	

IV. Free Elective Credits: 0.0 credit is required